Title (en)
HIGH-STRENGTH SPUN YARN PRODUCED FROM CONTINUOUS HIGH-MODULUS FILAMENTS, AND PROCESS FOR MAKING SAME

Title (de)
HOCHFESTER FASERGARN AUS UNUNTERBROCHENEN HOCHMODULFILAMENTEN UND HERSTELLUNGSVERFAHREN DAFÜR

Title (fr)
FILE DE FIBRES HAUTE RESISTANCE PRODUIT A PARTIR DE FILAMENTS CONTINUS DE MODULE ELEVE, ET PROCEDE DE FABRICATION DE CE FILE

Publication
EP 1774074 B1 20080709 (EN)

Application
EP 05777448 A 20050728

Priority
• US 2005026706 W 20050728
• US 91393004 A 20040806

Abstract (en)
[origin: US2006026945A1] A process for making a high-strength spun yarn begins by feeding one or more tows of substantially uncrimped continuous filaments of high-modulus material having a tensile modulus exceeding about $20x10^6$ psi through a high-speed stretch-breaking apparatus operating at low total draft ratio (preferably about 2.0) to break the filaments into high-modulus staple fibers having an average length in the range of about 5 to 6 inches. The tows advantageously are heavy, for example, having a denier of about 25,000 to about 500,000. Following the stretch-breaking step, the staple fibers are collected in sliver cans, and the staple fibers are advanced from the sliver cans to a spinning machine, where the fibers are spun into yarn. An important aspect of the invention is that no intermediate processes are performed between the stretch-breaking and spinning processes, which minimizes disruption of the alignment of and damage to the staple fibers.

IPC 8 full level
D02G 3/04 (2006.01); **D01G 1/08** (2006.01); **D01H 5/30** (2006.01)

CPC (source: EP KR US)
D01G 1/08 (2013.01 - EP KR US); **D02G 3/04** (2013.01 - KR); **D02G 3/047** (2013.01 - EP US)

Designated contracting state (EPC)
AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IS IT LI LT LU LV MC NL PL PT RO SE SI SK TR

DOCDB simple family (publication)
US 2006026945 A1 20060209; **US 7188462 B2 20070313**; AT E400682 T1 20080715; DE 602005008069 D1 20080821; EP 1774074 A1 20070418; EP 1774074 B1 20080709; JP 2008509292 A 20080327; KR 100870194 B1 20081124; KR 20070040837 A 20070417; WO 2006020404 A1 20060223

DOCDB simple family (application)
US 91393004 A 20040806; AT 05777448 T 20050728; DE 602005008069 T 20050728; EP 05777448 A 20050728; JP 2007524849 A 20050728; KR 20077005333 A 20070306; US 2005026706 W 20050728